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ABSTRACT

Over 100 different sets of computer assisted instruction (CAI) learning materials developed at the Florida State University CAI Center are briefly described in this document. Programs are listed by title; information about each title includes the amount of character storage required on the disks packs within the CAI system, audience level, student time required, and auxiliary materials available. Programs are indexed by subject matter and educational level. (JY)



U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE OFFICE OF EDUCATION

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TECH MEMO

EXISTING CAI CURRICULUM MATERIALS AT THE FSU-CAI CENTER

Duncan N. Hansen, Betty J. Wright, and Barbara F. Johnson

Tech Memo No. 13 June 30, 1970

Project NR 154-280
Sponsored by
Personnel & Training Research Programs
Psychological Sciences Division
Office of Naval Research
Washington, D.C.
Contract No. NOOO14-68-A-0494

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ABSTRACT

Over 100 different sets of CAI learning materials developed at the Florida State University CAI Center are briefly described in the following document. These CAI materials are listed and annotated in order that other investigators may save time and energy by utilizing the materials as a starting point for their own research and development efforts, if desired.

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EXISTING CAI CURRICULUM MATERIALS AT THE FSU-CAI CENTER

One is often asked about the time and energy required to develop computer-assisted instruction learning materials. We here at the Florida State University CAI Center have been actively utilizing an IBM 1500/DEC 680 system for approximately two and one-half years. During this time, numerous curriculum materials have been generated. They range across a broad spectrum of content topics representing all of the disciplines as well as spanning the grade levels from elementary school through graduate training. These materials have been primarily sponsored by the University Excellence Grant sponsored at the FSU CAI Center by the Office of Naval Research. In addition, the U.S. Office of Education and the National Science Foundation have contributed funds to this effort.

In the pages of this report, over 100 titles appear. Each title represents curriculum material developed here (or in process in May, 1970). Titles are explanatory of content, and one should analyze the key words to identify the content being covered. Immediately following the title, in the same column, is a segment number, referring to the amount of character storage required on the disk packs within the CAI system; one segment is approximately equal to half an hour of CAI instruction. (Approximately 1100 hours of instructional materials have been prepared during the last two and one-half years.)

In the second column on each page is an audience notation, which attempts to identify the educational level of the targeted student

population. The column "Auxiliary Materials" lists any printed, audiotaped, and slide materials required to provide the full learning experience.

As an aid in locating curriculum materials of particular interest to the reader, two classification systems have been added to the tables. The first lists each title by number as it appears in the main section of this report, and classifies it under one or more educational levels:

- I Primary
- II Intermediate
- III Junior High
 - IV Senior High
 - V College (Fr-Soph) (1,2)
- VI College (Jr-Sr) (3,4)
- VII Graduate
- VIII Adult Education Remedial
 - IX Adult Education Continuing

The second classification system lists each title number and classifies it according to subject matter. Thus a reader interested in high school level CAI exclusively can check columns III and IV of Index 1 for numbers of pertinent curriculum materials. Materials of certain subject matter interest are likewise easily identifiable in Index 2.

Anyone interested in acquiring any of the listed materials is invited to write: Dr. Duncan N. Hansen, Computer-Assisted Instruction Center, 1-A Tully Building, Florida State University, Tallahassee, Florida, 32306.



1500 PROGRAMS

	Program Title	Student Time	Audience	Auxiliary Materials
-	Reading Comprehension for Elementary School Children (read)*	variable	1st-8th graders	rione
. 2	Arithmetic Drill and Practice (arith) 0-35	variable	1st-8th graders	none
့က်	A Feasibility Study: Implementation and Optimization of a Computer Managed Instruction System in Graduate Education (scury, cogni, prod) 0-20	class time for one quarter	graduate students in Education	booklets, library references
4	The Effect of Response Mode on State Anxiety and Performance in Computer-Assisted Learning (ekg) 0-4	2 hours	introductory psychology students	none
ۍ. ک	Development of the Automated Slosson Individual Intelligence Test (sit) 0	1 hour	undergraduates	none
ģ	An Investigation into the Effectiveness and Optimal Temporal Position of Reviews for Rule Learning (rules) 0-3	3 hours	7th, 8th graders	none
7	Physics Lab Simulation (fysik) 0-28	variable	sophomore and junior high physics students	none

3

*This includes Read1 thru Read10 each of which is 80 segments - a segment being one lesson unit.

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					4	+			
Auxiliary Materials	handout	none	none	also required the APL system	Seamen Recruit Course Manual, films, trans- parencies, handouts	none	handouts	none	handout
Audience	high school- college	introductory psychology students	college, adult populations	library science graduate students	men ages 17-20	junior college students	library science graduate students	psychology undergraduates	7th, 8th graders
Student Time	variable	1-1/2 hours	1-1/2 hours	variable	20 hours	5 hours	variable	variable	45 minutes
Program Title	Learning Experimental Game Simulation (legs) 0-5	Subjective Organization in Free Recall as an Invididual Difference Measure (logos) O	Minnesota Multiphasic Personality Inventory (fmmpi) 0	Florida State University On-Line Co-ordinate Index Use Study (focus) 0	Seamen Military Requirements Curriculum (smrc) 0-4	An Investigation into the Effects on Retention of Differential Feedback Delay Intervals (nsf) 0-5	Sequential In-Basket Exercise (sibe) 0-1	Individualized Instruction Efficient Use of Teaching Assistants in College Psychology Instruction (pest) 0-10	Simulation of Cultural Problem Effects on a Diplomatic Career (mispo) 0
	ထံ	တိ	10.		12	<u>.</u>	74	15.	9

Auxiliary Materials	handbook	ore none	none.	none	e booklets, lab equipment	<pre>booklets, lab equipment</pre>	none	none	none	ors rone
Audience	college ROTC students	freshman, sophomore none college math	college educa- tional psychology and psychology	naval training personnel	7th grade science students	8th grade science students	4th-9th graders	college freshmen and sophomores	graduate students (EDR501, EDR502)	high school seniors
Student Time	variable	variable	1-1/2 hours	variable	variable	variable	variable	1-1/2 hours	2 hours	variable
Program Title	ROTC Study Session on an Analysis of Battles Using the Nine Principles of War (ROTC) 0-1	Finding Roots of Polynomial Equations and Related Concepts (alg) 0	Development of a Methodology for Maximizing Achievement and Minimizing Time (max) 0	Boolean Algebra (booln) 0-4	Intermediate Science Curriculum Study (iscs7) 0-22	Intermediate Science Curriculum Study (iscs8) 0-22	Investigation of Response Latency Patterns of Addition, Subtraction, Multiplication, and Division of Facts (math, mathy, mft, dft, sft, aft) 0-1	Short Term Memory Studies (them) 0	Experimental Test on Reliability and Validity Programs (reval) 0	Finding Roots of Polynomial
	17.	18.	19.	20.	21,	22.	23.	24,	25.	. 56

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	Program Title	Student Time	Audience	Auxiliary Materials
27.	27. Intentional and Selective Forgetting (them2) 0	variable	college sopno- mores	поле
28.	The Role of Incorrect Responses, Explanation and Student Pairing on the Learning of Programmed Text Material (psyed) 0	45 minutes	educational psychology students (jrsr.)	none
59.	The Mediated Transfer of Meaning (edr2) 0	1-2 hours	freshmen, sopho- mores psychology	none
30.	A Systems Approach to Educational Planning (halst) (hpert) 0-4	7 hours	educational adm. personnel from State Department of Education	filmstrips, tapes
31.	Coursewriter II, Planning, outlining, answer analysis, performance recording, branching (cwtwo) 0-1	2 hours	CAI trainees	CWII manual
32,	Physics Laboratory Experiments Using CAI (Pslab) 0-9	1 hour	nonphysics majors	none
33	CAI Project in Introductory Physics (p107) 0-9	25 hours	nonphysics majors college freshmen	tapes, films
34,	Concepts of Social Welfare (socal) 0	4 hours	graduate students in Dept. of Soc. Welfare	non e
35.	Use of CAI in Science Instruction (sense) O	2 hours	8th graders	none
36.	Paired-Associate Learning (pal) 0-1	1-1/2 hours	psychology students	none

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Auxiliary Materials					lab equip.	7	•			
Auxilian	none	попе	none	none	booklet, workbocks	none	none	none	none	none
Audience	juniors, seniors, graduate students	graduate students beginning statis- tics	introductory psychology students	introductory psychology students	7th graders	ROTC trainees	eng science students	introductory psychology students	naval reserve personnel	varied
Student Time	6 hours	50 minutes	1 hour	1 hour	120 hours	3 hours	1-1/2 hours	4 hours	2 hours	5-8 hours
Program Title	37. Methods of Presentation in General Curriculum Class on Selected Variables (curpa) 0-3	38. EDR510 Introductory Statistics Tests (stats) 0	39. A Personality Aptitude Testing Program (oneil) 0	40. Anxiety and Task Difficulty Using CAI (psy3) 0	41. Intermediate Science Curriculum (iscs1) 0-22	42. Investigation in Complex Mental Processes (rotch) 0-4	43. CAI in Dynamics: Rotation of a Rigid Body in Three Dimensions (egsdy) 0	44. A Study of Information Processing Behavior Within an Electronic Training System (brown) (Brow2) 0-3	45. Preventive Maintenance Systems (pms) 0	46. Learning Parameters: An Investi- gation of their Effective Utili- zation in Computer Based Adaptive Training (pic) (nrpic) (nr2) 0-1
	ί M	Ř	33	4	4	42	43	44	45	46

ERIC Full flat Provided by ERIC

Auxiliary Naterials										
Auxi	none	none	none	none	none	none	none	поле	none	none
Audience	college students	graduate students	beginning psychol- ogy students	language edu- cation students	beginning psychol- ogy students	4th-9th graders	freshmen	beginning psy- chology students	college sophomores	college freshmen and sophomores
Student Time	30 minutes	1 hour	4 hours	1 hour	4 hours	2 hours	2 hours	T hour	1 hour	1 hour
Program Title	The Conditioning of Verbal Statements with Political Content (polsc) O	Metric System of Linear Measurement (carr) 0	Comparison of Constructed Response and Multiple Choice Response Modes on Beginning Psychology Learning Materials (dunba) 0	A Programmed Introduction to Language Teaching (hande) 0	CAI Program on Introductory Programmed Instruction Terminology (galla) 0	Diagnostic Testing, Arithmetic (lipe) O	Introduction to Set Theory (espig) 0	Comparison of Constructed Response and Multiple Choice Response Modes on Beginning Psychology Learning Materials (river) 0	Interaction of Examiner Attitude with Praise and Blame (thesi) O	Attitudes to Teaching Methods (essay) 0
	47	48.	49	50.	51.	52°	53,	54	55.	56.

ERIC Full text Provided by EBIC

Auxiliary Materials	none	ed none	none	none	none	none	none	none	- none	lab, equip, booklets	case studies, reference books
Audience	all levels	adults interested in Coursewriter II	mathemat∮cs instructors	junior high Students	freshmen, sopho- mores in psy- chology	2nd graders	freshmen	social welfare undergraduates	adults with mini- mum of 8th grade reading compre- hension	9th graders	social science majors
Student Time	1 hour	2 hours	1 hour	30 minutes	1-3/4 hours	10 hours	2 hours	1-1/2 hours	2 hours	variable	One quarter
Program Title	57 CAI Adaptation of Kuder Preference Record Test (kuder) 0	58. Coursewriter II Program Flow (memor) 0	<pre>59. Trigonometry in General Education (white) 0</pre>	<pre>i0. PedantProgrammed Exercise in Divergent and Normal Thinking (hogan) 0</pre>	1. Number of Alternatives in A Multiple-Choice Programming Format (multi) G-3	2. A Computer-Assisted Program in Individualized Instruction in Elementary Reading (barb) 10	3. Speech Preparation (blomq)	4. Social Welfare (hagerty)	5. How to Improve Your Child's Performance (scan1)	5. Intermediate Science Curriculum Study (iscs9) 0-17	7. Social Sciences Retrieval System (it) 0-6
	57° C	58. C.	59, Ti	60. P.	61. Nu ifu	62. A In in	63. Sp	64. So	65. Ho Pe	66. In St	67. So

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	Program Title	Student Time	Audience	Auxiliary Materials
889	68. Behavioral Science Test (best, best2) 0-6	3 hours	social welfare undergrads, grads	none
· 69	69. Computer Managed Instruction (teach) 0-10	variable	elementary edu- cation juniors or above	none
70.	70. Testing of Enablers in Elementary Model Field Study (quiz) 0	1 hour	elementary edu- cation majors	none



	Program Title	Student Time	Audience	Auxiliary Materials
71.	71. Elementary Physics (physics1) 5700	1-10 hours	collège freshmen nonphysics maj	booklet
. 27	CAI Applied to Basic Computer Programming of 1440 System in Fortran (fortran) 2767	4 hours	collège sophomores interested in com- puter applications	booklet
73.	Introduction to Computer Programming with Autocoder (ms200) 2807	4 hours	same as fortran	textbook
74	Concepts of Social Welfare Work (consowel) 2597	6 hours	graduate students in social welfare	none
75 .	Use of a Computer for Teaching Deductive Reasoning (deduct) 2000	30 minutes	high school	none
76,	Boolean Algebra (booln) 7000	variable	naval training devices center personnel	booklet
77.	Reading Comprehension (read) 5000	variable	1st-6th graders	none
78	Addition Drill (add) 5000	variable	1st-6th graders	none
79	Subtraction Drill (sub) 5000	variable	1st-6th graders	none
8	Individual and group differences in learning under two different modes of CAI (edtest) 2000	3 hours	seniors in the school of education	slides
81.	Non-metric Geometry for grades 5-7 (geomb)	7-8 hours	5th, 6th, 7th graders	booklet

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•	Program Title	Student Time	Audience	Auxiliary Materials
8	Auditory-Visual Stimulus Redundancy in Concept Identification (auviscon)	8 hours	college under- graduates	slides, tapes
8	Interaction of Intellectual Abilities and Form of Subject Matter Content (concept1) 2000	1 hour	graduate students in school of education	booklet or array board
≋	Program for Non-Art Students Dealing with Prime Examples of Architectural Style (arthis) 1500	incomplete	elementary school teachers	none
జ	Computational with Fractional Numbers (compfrac)	6 hrs. incomp. course	7th, 8th graders needing assistance with fractional numbers	slides
88	Concept Attainment thru Synonyms (cats)	7 hours	college under- graduates	none
87.	Anxiety and Task Difficulty Using CAI Media (psy2) 0	1-1/2 hours	college students	none
88 88	Physics Demonstration Program (physdemo) 520	20-40 minutes	adult demo groups	none
88	Effects of Three Instructional Strategies on Achievement in a Remedial Arithmetic Program (addsub) 2500	3 hours	junior high low achievers in mathematics	none
90.	Coursewriter I (fsucw) 2500	3 hours	authors and coders	booklet
91.	General Chemistry Problem Solving (chem1) 2718	incomplete	college freshmen chemistry	none

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Studen. Audience 20-40 minutes college fres and sophomor high students 2 hours visitors to visitors to college fres in math educe classes in 4 hours college fres in math educe classes in 4-5 hours graduate stuin Principle fuidance 3 hours graduate stuin Principle fuidance in Principle fuidance in Principle fuidance in Principle fuidance illitterates ages 16-22	Auxiliary Materials	hmen none es	schoo! none	CAI none	Junior none	freshmen booklet education	posttest	dents none s of	none
Program Title An Investigation of Sequential Testing in College Physics (phytest) 2500 Elementary Game Probability (gameprob) 812 Demonstration Package (welcome) 1021 An Investigation of the Application of Computer-Assisted Instruction and Information Retrieval Systems to Academic Advising in a Junior College (advise) 5000 A Comparison of Two Methods of Presenting an Axiom System (proof) The Effects of Idiosyncratic Rein- forcement Conditions on Learning Acquisition of a Complex Numbers Prog. (complex) (comnumst) (comnumii) 2737 The Use of Tests in Student The Use of Testuse) The Development of Pre-Vocational The Development of Pre-Vocation of Disadvantaged Youths and Adults	Audience	college freshmen and sophomores	junior high school students	10	Tallahassee College		9th graders	graduate students in Principles of Guidance	functional illiterates ages 16-22
And the Appendix Appe		20-40 minutes		2 hours		4 hours	4-5 hours		5 hours
	Program Title				An of and to Col	A Comparison of Two Methods Presenting an Axiom System (proof)		The Use of Tests in Appraisal (testuse)	

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Student Time Audience Auxiliary Materials	1-1½ hours college seniors booklet majors in broad- cast	50 hours adult illiterates slådes, tapes ages 21-45	20 minutes 6th grade through none high school	6 hours college seniors and booklet graduate students in educational	120 hours* 7th grade students lab equip:
Program Title	An Experimental Study in Broadcast Communication with Speech Department (televis)	Pre-Vocational Education Literacyr Course for Disadvantaged Youths and Adults in Reading (readl)	Uses of the Comma (comma)	Instructional Materials to be used in Educational Measurement Courses (teststat) (testref) 3734	Junior High Science Curriculum
,	100.	101.	102	103.	104.

*This estimate is based on student having one 50 minute period five days a week for one school year.

INDEX I

PROGRAMS CLASSIFIED BY EDUCATIONAL LEVEL

- I. PRIMARY
- II. INTERMEDIATE
- III. JUNIOR HIGH
- IV. SENIOR HIGH
- V. COLLEGE (JUNIOR) (1-2)
- VI. COLLEGE (SENIOR) (3-4)
- VII. GRADUATE
- VIII. ADULT EDUCATION (REMEDIAL)
 - IX. ADULT EDUCATION (CONTINUING)

Dynamana				E	ducatio	nal Leve	21		
Programs	I	II	III	ΙV	V	VI	VII	VIII	IX
1	X	X	Х					Х	
2	X	Х	X					X	
3						4	X		X
4					Х	Х			X
5					Х				
6					Х	X			X
7				X	Х	Х			X
8				Х		Х		X	X
9					Х	Х			
10					Х	Х	X	Х	X
11							X		
12		, , , , , , , , , , , , , , , , , , , ,		X	Х	X			
13			•		Х	Х			

			•	Edu	cati on a	al Level			
Programs	I	II	III	IV	٧	VI	VII	VIII	IX
14						Х			
15					X	X			
16			X					X	
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22			X		<u></u> ,			X	
23	X	Х	X				**************************************	Х	
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35			X					X	



Programs				Edu	cationa	l Level			
rrograms	I	II	III	IV	V	VI	VII	VIII	IX
36					X	x			X
37					X	Х	Х	Theory and the state of the sta	X
38							X		х
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40			٨		X	X			
41			X		<u> </u>			X	
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43					X	X			
44			· · · · · · · · · · · · · · · · · · ·		X	Х	Х	**************************************	X
45			<u>_</u>			Х			X
46					X	Х			Х
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48				-			Х		X
49						X			
50					X	X			
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54					X	X			
55					X				
56					X				
57			X	X	X	X	X	X	X

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Programs	I	11	111	I۷	V	IV	IIV	VIII	IX
58	·						X		
59									X
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80						х			X
81		X						X	
82					Х				Х
83						Х	X		Х
84				^		Х	X		X
85			Х					X	
86					X	Х			X
87					Х	Х	X		Х
88								X	Х
89			Х					X	
90					X	Х			X
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95					X				
96					Х				X
97			X					Х	
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INDEX II

PROGRAMS CLASSIFIED BY SUBJECT MATTER

- 1. Art Education

- 2. Computer Languages
 3. Education
 4. Engineering Science
 5. Language Education
 6. Library Science
 7. Mathematics

- 8. Military
- 9. Physics 10. Political Science
- 11. Psychology 12. Reading
- 13. Science
- 14. Simulation and Games
- 15. Social Welfare
- 16. Speech
- 17. Statistics
- 18. Testing and Evaluation

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